Dr. Eva C. Herbst

Conference Presentations

* denotes co first author, first author listed = presenting author

2021 Evans, L. A. E.*, **Herbst, E. C.***, Felder, A. A., Ajami, S., Jahaveri, B., Pitsillides, A. A. *Do age-related differences in healthy and osteoarthritic mouse tibias show future imaging biomarkers?* Anatomical Society Summer Meeting Glasgow. Abstract published in Journal of Anatomy

2021 Evans, L. A. E.*, **Herbst, E. C.***, Felder, A. A., Ajami, S., Jahaveri, B., Pitsillides, A. A. *Do age-related epiphyseal bone differences in osteoarthritic SRT/Ort versus healthy mouse tibiae reveal future imaging biomarkers?* British Orthopoedic Research Society. Online.

2021 **Herbst, E. C.**, Lautenschlager, S., Fioritti, N., Meade, L., Scheyer, T.M. 2021. *Modelling muscle volumes for finite element analysis and multibody dynamics* XVIII International Symposium on Computer Simulation in Biomechanics. Online. (Talk)

2021 Webb, N. M., Fornai, C., Krenn, V. A., **Herbst, E. C.**, Haeusler, M. 2021. *A tight squeeze for chimpanzees: the role of joint laxity and fetal head orientation during birth.* European Society for the Study of Human Evolution. Online. Abstract published in PaleoAnthropology, pg. 270

2021 Evans, L. A. E.*, **Herbst, E. C.***, Felder, A. A., Ajami, S., Jahaveri, B., Pitsillides, A. A. *Do 3D epiphyseal bone architectural changes in ageing STR/Ort and healthy mice reveal early imaging biomarkers of osteoarthritis?* Bone Research Society Annual Meeting. Online. (Talk, winner of New Investigator Award). Abstract published in JMBR Plus, pg. 6

2021 **Herbst, E. C.**, Eberhard, E., Manafzadeh, A. R., Richards, C., Hutchinson, J. R. *New methods support the possibility of a salamander-like walk in the Permian tetrapod Eryops.* Society for Integrative and Comparative Biology Annual Meeting, Online. (Talk, winner of D. Dwight Davis Award Session)

2021 **Herbst, E. C.**, Bastiaans, D., Miedema, F., Scheyer, T. M., Lautenschlager, S. 2021. *How important is modeling tooth enamel in FEA comparisons of whole skulls? Comparing common simplifications with biologically realistic models.* Society for Integrative and Comparative Biology Annual Meeting, Online. (Poster)

2021 Bastiaans, D., **Herbst, E. C.**, Scheyer, T. M. Bringing fossils back to life: 3D cranial reconstructions of the highly flattened remains of thalattosauriformes. Society for Integrative and Comparative Biology Annual Meeting, Online. (Talk)

2020 **Herbst, E. C.**, Eberhard E., Manafzadeh A. R., Richards C., Hutchinson J. R. 2020. Was the early tetrapod *Eryops* capable of a salamander-like walk? Developing new methods to test paleontological hypotheses about posture and gait. Swiss Geosciences Meeting, Online. (Talk, winner of Swiss Commission of Palaeontology Prize)

2020 Bastiaans, D., **Herbst, E. C.**, Scheyer, T. M. Re-fleshing fossils: cranial reconstructions of thalattosauriformes. Swiss Geosciences Meeting, Online. (Talk)

2020 Bastiaans, D., **Herbst, E. C.**, Webb, N. M., Haeusler, M. Scheyer, T. M. 3D Data, a gateway to open science: the FEZ initiative. OILS (Open Innovation in Life Sciences), Online. (Talk)

2020 Bastiaans, D., **Herbst, E. C.**, Scheyer, T. M. Virtual paleontology: a modern look at ancient material OILS (Open Innovation in Life Sciences), Online. (Talk)

2020 Bastiaans, D., **Herbst, E. C.**, Scheyer, T. M. Thalattosauriformes: schedelreconstructies van Triassische weirdos. NKVP (Nederlandse Kring van Vertebraten Paleontologen), Online (Talk).

2020 **Herbst, E. C.**, Felder, A. A., Evans, L. A. E. , Jahaveri, B., Ajami, S., Pitsillides, A. A. A new automated method of segmenting trabecular bone: investigating subchondral trabecular changes as a predictor of osteoarthritis at the joint surface. Bone Research Society Annual Meeting, Online. (Poster). Abstract published in JMBR Plus pg. 51

2020 **Herbst, E. C.**, Eberhard, E., Richards, C., Hutchinson, J. R. Comparing in vivo and ex vivo knee range of motion in salamanders: a new method for investigating joint mobility. CAMS-Knee OpenSim Workshop, ETH, Zürich. (Poster)

2019 **Herbst, E. C.**, Eberhard, E. A., Richards, C. T., Hutchinson, J .R. 2019. A new method for investigating joint mobility and its relevance for inferring locomotor evolution in early tetrapods. 12th International Congress of Vertebrate Morphology, Prague, Czech Republic, abstract here (Talk)

2018 **Herbst, E. C.**, Doube, M., Smithson, T. R., Clack, J., Hutchinson. J. R. Paleopathologies in Carboniferous tetrapods and the evolution of bone healing. Society of Vertebrate Paleontology, 78th Annual Meeting, Albuquerque, New Mexico. (Poster)

2018 C. M. Holliday, **Herbst, E. C.**, M. Jacoby, A. Smolinsky, K. Sellers. Morphometric and modeling approaches to understanding the evolution of pseudosuchian mandibular symphyses. Society of Vertebrate Paleontology, 78th Annual Meeting, Albuquerque, New Mexico. (Talk)

2018 **Herbst, E. C.** 2018. New elements discovered in the early tetrapod *Crassigyrinus scoticus*. DVM SICB Regional Meeting, Natural History Museum, London. (Talk)

2018 **Herbst, E. C.**, Smithson, T. R., Clack, J., Doube, M., Hutchinson. J.R. Bony lesions in early tetrapods and the evolution of bone healing. Society of Integrative and Comparative Biology Annual Meeting, San Francisco. (Talk)

2018 **Herbst, E. C.**, Smithson, T. R., Clack, J., Doube, M., Hutchinson. J.R. Bony lesions in early tetrapods and the evolution of bone healing. Society of Integrative and Comparative Biology Annual Meeting, San Francisco. (Talk)

2017 **Herbst, E. C.** and Hutchinson, J. R. New insights into the morphology of the Carboniferous tetrapod *Crassigyrinus scoticus* gleaned from computer tomography. The Early Tetrapod World: a one-day conference celebrating the career of Prof Jenny Clack FRS. University of Cambridge. (Invited Conference Talk)

2017 **Herbst, E. C.**, Smithson, T. R., Clack, J., Hutchinson. J. R 2017. Pathology in the early tetrapod *Crassigyrinus scoticus*. Progressive Palaeontology Annual Meeting, University of Leicester. (Talk)

Invited Talks and Workshops

2021 *Computational tools to investigate 3D form and function in extinct and extant taxa.* Palaeontology Discussion Group Seminar Series, University of Bristol, UK

2021 *Reconstructing feeding function in Triassic reptiles: computational methods biomechanical analyses.* Public Colloqium Series, Palaeontological Institute and Museum, University of Zurich, Switzerland

2021 *Trabecular bone segmentation workshop*
Senckenberg Museum and Research Institute, Frankfurt, Germany.
Recording available on Youtube.

2021 *Motion capture and computational approaches to investigate joint range of motion*
Palaeontology Discussion Group, University of Birmingham, UK.

2021 *Workshop: how to clean 3D meshes in Blender*
FunkyMUG (Functional Morphology Users Group). Recording available on Youtube.

2021 *New methods support the possibility of a salamander-like walk in the Permian tetrapod Eryops.* Comparative Zoology Lab, Humboldt University Berlin, and Natural History Museum Berlin, Germany.

2020 *Investigating joint range of motion in salamanders and early tetrapods.*
Evolutionary Morphology and Biomechanics Group, University of Liverpool, UK.

2019 *Computational analysis of the evolution of amphibian locomotor modes.*
Postgraduate Research Day, Final Year PhD Session, Royal Veterinary College, London.

2017 *Functional morphology of Crassigyrinus scoticus: gaining insight into locomotor evolution in early tetrapods.*
Postgraduate Research Day, Royal Veterinary College, London. (Poster)

2017 *Computational analysis of the evolution of amphibian locomotor modes.*
Postgraduate Seminar Series, Royal Veterinary College, London.

Teaching

Teaching Positions

2021,2022	Bio 262 Evolutionary Morphology of Vertebrates - Issues and Methods University of Zurich
2020	Bio 267, Paleobiology and Evolution of Vertebrates, University of Zurich
2016-2019	Research Skills Facilitator, Royal Veterinary College, London
2017-2018	Comparative Animal Locomotion Module, Royal Veterinary College, London

Lectures

2021,2022	*Using Computer Tools to Investigate Biomechanics of Animals.* Bio 262, University of Zurich
2020, 2021	*Using Computer Modeling to Investigate Biomechanics of Extinct Animals.* Bio267, University of Zurich

Supervision of Students

2022-present	Kehan Pan, Master's student in Biomedical Engineering (Biomechanics), ETH, Zurich (supervised semester project on FEA)
2019 - present	Dylan Bastiaans, PhD student, UZH
2019 - present	supervision of student projects in Bio 262 and 267